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     (FILE 'HOME' ENTERED AT 08:51:17 ON 23 MAR 2001)

     FILE 'REGISTRY' ENTERED AT 08:51:35 ON 23 MAR 2001
L1             2 (0.1<C<.5 AND 1<CR<3 AND 1<W<3 AND 0<MN<1 AND 0<B<.02 AND
50<FE

     FILE 'HCA' ENTERED AT 08:52:58 ON 23 MAR 2001
L2            20 L1
L3          8932 (IRON OR FE) AND (CARBON OR C) AND (TUNGSTEN OR W) AND
(CHROMIU
L4             1 L2 AND L3

     FILE 'REGISTRY' ENTERED AT 08:55:17 ON 23 MAR 2001
L5            71 (.1<C<.5 AND 1<CR<3 AND 0<B<.1 AND 50<FE)/MAC

     FILE 'HCA' ENTERED AT 08:56:10 ON 23 MAR 2001
L6           228 L5
L7             5 L6 AND L3
                 SELECT L7 IPC 1,5
L8        177955 E1-6
L9           541 L8 AND (CARBON OR C) AND (SILICON OR SI) AND (MANGANESE OR
MN)

     FILE 'REGISTRY' ENTERED AT 09:01:06 ON 23 MAR 2001
L10         97944 (.1<C<.5 AND 50<FE)/MAC

     FILE 'HCA' ENTERED AT 09:01:41 ON 23 MAR 2001
L11          268 L9 AND L10

     FILE 'REGISTRY' ENTERED AT 09:03:32 ON 23 MAR 2001
L12         16401 L10 AND 1<CR<5/MAC

     FILE 'HCA' ENTERED AT 09:04:10 ON 23 MAR 2001
L13           89 L11 AND L12
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AN 98:58174 HCA
TI Steel
IN Bogomolov, B. N.; Tkachenko, V. P.; Samoilenko, V. A.; Mukhin, E. N.; Modylevskii, B. B.; Yakhkind, Yu. R.; Khromov, V. G.
PA All-Union Scientific-Research Institute of the Cement Industry, USSR; Vorovskii, Foundry-Mechanical Plant
SO U.S.S.R.
From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1982, (27), 120.
CODEN: URXXAF
DT Patent
LA Russian
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 945220	A1	19820723	SU 1980-2994196	19800904

AB The steel with improved technol. properties and increased heat resistance while maintaining dynamic wear resistance contains Al 0.01-0.1, Ca 0.001-0.01, and Ba 0.0001-0.001% in addn. to **C** 0.25-0.5, **Si** 0.2-0.5, **Mn** 0.2-3, Ni 0.05-5, **N** 0.015-0.1, and 1 of **Cr**, Mo, **V**, **W**, **Ti**, Zr, **Nb**, Ta, and **B** 0.3-10%.

AN 134:181533 HCA
TI High-strength, heat-resistant low alloy steel with excellent weldability
IN Komai, Nobuyoshi; Masuyama, Fujimitsu; Yokoyama, Tomomitsu; Hirata, Hiroyuki; Kawano, Kaori; Kan, Takao
PA Sumitomo Metal Industries, Ltd., Japan; Mitsubishi Heavy Industries, Ltd.
SO Eur. Pat. Appl., 24 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1081244	A1	20010307	EP 2000-402312	20000818

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRAI JP 1999-231972 19990818
JP 2000-226955 20000727

AB A high strength, low alloy, heat resistant steel having excellent weldability has an av. crystal grain diam. of at most 110 <mm and consists essentially of, **C** 0.03-0.15%, **Si** 0-1%, **Mn** 0-2%, P 0-0.03%, S 0-0.03%, Ni 0-0.5%, Cu 0-0.5%, **Cr** 1.8-2.8%, **V** 0.1-0.3%, **Nb**: 0.01-0.08%, Mo: 0.05-0.35%,**W** 1.2-1.8%, **Ti** 0.001-0.05%, **B** 0-0.02%, Al 0- 0.1%, O 0-0.1%, **N**: in an amt. satisfying the formula [%**N**] .ltoreq. [%**Ti**] & 5[%**B**] & 0.004, and a remainder of Fe with unavoidable impurities. These alloys are suitable for piping in boilers and chem. equipment.

RE.CNT 5
RE
(1) Anon; PATENT ABSTRACTS OF JAPAN 1997, V1997(01)
(2) Ishikawajima Harima Heavy Ind; JP 11123553 A 1999
(3) Nippon Steel Corp; JP 58164752 A 1983 HCA
(4) Sumitomo Metal Ind; EP 0560375 A 1993 HCA
(5) Sumitomo Metal Ind Ltd; JP 08225884 A 1996 HCA

AN 131:90809 HCA
TI Steel plug tools for manufacture of seamless steel tubes
IN Maeda, Tatsuo; Minami, Yusuke; Takaoka, Tatsuo; Yamazaki, Motoharu
PA Nippon Kokan Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11179407	A2	19990706	JP 1997-351280	19971219

AB The plug tools are made of steels contg. **C** 0.1-0.4, **Si** 0.1-3, **Mn** 0.2-2, Cu 0.05-1, Ni 0.5-10, **Cr** 0.5-5, Mo 0.5-5, **W** 0.5-5, Co 0.5-5, **Ti** 0.015-1, and sol. Al 0.01-0.1 wt.% (0 .ltoreq. 7Co% - 10C% - Ni% .ltoreq. 18). Impurities of the steel tools may be suppressed to P .ltoreq.0.05, S .ltoreq.0.06, and **N** .ltoreq.0.2 wt.%. The steel tools may further contain **V** 0.05-2, Zr 0.05-2, **B** 0.005-0.02, and/or **Nb** 0.05-2 wt.%. The tools are manufd. by casting steels into plugs and then heat treatment to generate scales. The tools, when being used as plugs in Mannesmann plug mill rolling, inhibit seizure of seamless steel tubes.

AN 125:281828 HCA
TI Manufacture of qualitative anisotropy-free thick steel strips having with high toughness
IN Yoshe, Atsuhiko; Fujita, Takashi
PA Shinnippon Seitetsu Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08215701	A2	19960827	JP 1995-23207	19950210

AB The process comprises rolling the cast ingots of steel contg. **C** 0.02-0.30, **Si** 0.01-2.0, **Mn** 0.30-3.5, Al 0.003-0.10, and optionally **Nb** 0.001-0.10, **Ti** 0.001-0.10, Cu 0.05-3.0, Ni 0.05-10.0, **Cr** 0.05-10.0, Mo 0.05-3.5, Co 0.05-10.0, **W** 0.05-2.0, **V** 0.002-0.10, **B** 0.002-0.0025, misch metal 0.002-0.10 and/or Ca 0.0003-0.0040% to give a strip at austenitic unrecrystn. temp., and then heat treatment of the strip after repeated bending to give the final product with strain satisfying the relation: .epsilon. .gtoreq.[-(.epsilon.R/100)] - (**n**/20) - 1.05.times.10-3T + 3.2 , in which .epsilon. = total strain (%) of surface layer given by the repeated bending treatment; .epsilon.R = the total draft at the rolling; **n** = no. of repeated bending; T = surface temp. (**C**.degree.) of the steel strip. Thus, the cast ingots of steel contg. **C** 0.08, **Si** 0.24, **Mn** 1.33, Cu 0.12, Ni 0.40, **Nb** 0.005, **Ti** 0.007, **V** 0.004, Al 0.025, and Ca 0.0020% was rolled after reheating at 790.degree. and 40% draft, bended for 6 times at .apprx.785.degree., and then heat-treated to give a final strip with .epsilon. 3.6% and uniform tensile strength.

AN 123:234499 HCA
TI Heat-resistant **chromium** steels having good high-temperature strength
IN Hamada, Kazushi; Tokuno, Kazunari
PA Shinnippon Seitetsu Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07150289	A2	19950613	JP 1993-298526	19931129

AB The steels contain **C** 0.05-0.30, **Si** 0.05-1.0, **Mn** 0.05-2.0, **Cr** 1.0-5.0, Ni 0.01-1.0, Mo 0.3-2.0, **N** 0.003-0.050, and **V** 0.05-0.50 wt.%, Ta2O5 + Nb2O5 0.3-2.0 vol%, and Ta + **Nb** 0.25-2.5 wt.%. The av. particle size of Ta2O5 and Nb2O5 .ltoreq.1 .mu.m. Optionally, the steels contain **W** 0.03-3.0 and Cu 0.05-1.50, **Ti** 0.005-0.05, **B** 0.0005-0.01, and/or Co 0.01-3.0 wt.%. The steels may contain Al 0.001-0.02, Mg 0.001-0.02, Y 0.001-0.02, Zr 0.001-0.02, Hf 0.001-0.02, and/or Ca 0.001-0.02 wt.%. The steels, esp. suitable for heat-resistant structures, have good high-temp. creep strength.

AN 118:64193 HCA
TI Steel tools for the manufacture of seamless tubes
IN Okada, Yasutaka
PA Sumitomo Metal Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04270003	A2	19920925	JP 1991-50417	19910223
	JP 2940188	B2	19990825		

AB The tools are of steel contg. **C** 0.08-0.35, **Si** 0.1-2.0, **Mn** 0.2-3.0, Ni 0.5-7.0, Mo and **W** 1.5-8.0, Al 0.005-0.2, and **N** .ltoreq.0.02, O .ltoreq.0.01, P .ltoreq.0.035, and S .ltoreq.0.03% as impurities. The tools have a scale layer .gtoreq.50 .mu.m thick, and the roughness of steel surface under the scale is 100-300 .mu.m. Optionally, the steel contains **Cr** and Co .ltoreq.5.0 each, **V**, **Nb**, and **Ti** .ltoreq.2.0 each, Zr .ltoreq.0.5, **B** .ltoreq.0.2, and Mg, Ca, La, Ce, and Y .ltoreq.0.5%. The tools are esp. suitable for the manuf. of seamless tubes from high-alloy steel, stainless steel and Ni alloys which have high resistance to deformation and are easily seized.